

# Kialo Edu

## Design Review and User Research

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**JOHNS HOPKINS**  
SCHOOL *of* EDUCATION

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**Center for Research and  
Reform in Education**

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## Introduction

This design review and user research<sup>1</sup> for Kialo Edu included a formative evaluation of the online discussion tool (<https://www.kialo-edu.com/>). A total of 13 voluntary participants with diverse backgrounds in teaching and instructional design in higher education provided valuable insights into the design and usability of Kialo Edu. The materials submitted for review included access to the online discussion tool, which is available to educators at no cost. As per the Statement of Work (Appendix A), the aim of this review was twofold: (1) to provide an expert design review of Kialo Edu, and (2) to collect and analyze user data on the tool's *usability* and *utility*, where the former sought to pinpoint specific areas that users find confusing or difficult to use or navigate and the latter focused on the perceived usefulness of the program and barriers to implementation. This data was collected virtually during Zoom conferences with individual participants; meeting recordings and audio transcripts were analyzed for emerging themes and collective feedback on the pedagogical, instructional, and motivational value of the program; as well as suggestions for improvement.

### *Kialo Edu*

According to the developer website, "Kialo Edu is a custom version of Kialo ([kialo.com](http://kialo.com)), the world's largest argument mapping and debate site, specifically designed for classroom use."<sup>2</sup> The online discussion platform facilitates reasoned debates around complex issues and engages learners with powerful tools to be active participants in online discourse. The mission of the company is to "make the world a more thoughtful place..." and Kialo Edu strives for a more sophisticated space for public and private conversation between and amongst academics and learners. Its clean, navigable argument mapping visualizes discussions in new ways, offering a novel approach to nuanced debate and fair exchange of ideas.

## Methodology

### *Design Review*

The Rubric for eLearning Tool Evaluation<sup>3</sup> (Appendix B), developed by Anstey and Watson (2018), was selected for the review of this online tool to evaluate the

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<sup>1</sup> Kialo Edu is permitted to disseminate this report in full or to publicize that the present review has been conducted, but direct quotes or excerpts from this report should not be released without explicit permission by the CRRE.

<sup>2</sup> <https://www.kialo-edu.com/>

<sup>3</sup> Rubric for eLearning Tool Evaluation by Lauren M. Anstey & Gavan P.L. Watson, copyright 2018, Centre for Teaching and Learning, Western University is made available under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License, <http://creativecommons.org/licenses/by-nc-sa/4.0/>

functionality, accessibility, technical design, and its impact on social, teaching, and cognitive presence, among other criteria. These components are especially relevant to an online tool that aims to facilitate meaningful conversation in an educational setting. Researchers from the CRRE applied the rubric as a formative evaluation of Kialo Edu, where applicable.

### *User Research*

In addition to the design review, a total of 13 participants were interviewed individually via Zoom to gain insight into the usability and utility of Kialo Edu. Study participants were recruited directly via email invitations, and those who consented to the study were compensated with an Amazon gift card. Each interview lasted between 30-60 minutes; the variation in time was dependent upon the participant's responses and their ease-of-use of the tool. A CRRE researcher used a usability testing protocol (see Appendix C) to prompt participants to execute eight specific tasks within Kialo Edu and then respond to Likert-type questions about the usability of the tool and open-ended questions about the utility of Kialo Edu, in general. Participants also were asked for specific recommendations to improve the tool. All participants had professional learning backgrounds as either tenured professors or as course design specialists or support team members and worked in mid- to large-sized universities.

## Results

The results are presented in terms of the design review of the Kialo Edu tool and of the user research that was collected through virtual interviews and think-aloud protocols.

### *Design Review*

This section includes a summarized view of the results of the Rubric for eLearning Tool Evaluation (see Table 1) and a short rationale for the rating assigned to each criterion. Appendix B provides more detailed descriptions for each criterion.

Table 1

*A collapsed view of the Rubric for eLearning Tool Evaluation results*

	Limited	Moderate	Strong	NA
<b>Functionality</b>				
1. Scale			✓	
2. Ease of Use		✓		
3. Tech Support / Help Availability			✓	

4. Hypermediality	✓			
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**Accessibility**

1. Accessibility Standards			✓	
2. User-focused Participation			✓	
3. Required Equipment			✓	
4. Cost of Use			✓	

**Technical**

1. Integration within an LMS			✓	
2. Desktop/Laptop Operating Systems			✓	
3. Browser			✓	
4. Additional Downloads			✓	

**Mobile Design**

1. Access			✓	
2. Functionality			✓	
3. Offline Access	✓			

**Privacy, Data Protection, and Rights**

1. Sign Up / Sign In		✓		
2. Data Privacy and Ownership			✓	
3. Archiving, Saving, and Exporting Data		✓		

**Social Presence**

1. Collaboration			✓	
2. User Accountability			✓	
3. Diffusion			✓	

**Teaching Presence**

1. Facilitation			✓	
2. Customization			✓	
3. Learning Analytics		✓		

**Cognitive Presence**

1. Enhancement of Cognitive Tasks			✓	
2. Higher Order Thinking			✓	
3. Metacognitive Engagement			✓	

**Functionality**

This category on the Rubric for eLearning Tool Evaluation includes four sub-criteria: Scale, Ease of Use, Tech Support / Help Availability, and Hypermediality. Overall, the product received the highest rating ("Strong") for scale and tech support; the tool can be scaled to accommodate any size learner group, and extensive help

articles, resources,<sup>4</sup> and a point of contact are available to the learner. The criterion for ease of use was rated “Moderate,” primarily for reasons concerned with interface usability that are detailed later in the user research section of this report. Last, the criterion for hypermediality was assigned a rating of “Limited” due to the inability to contribute multimodal (audio, video) responses, which confines learners to text-based engagement with the material.

## **Accessibility**

Kialo Edu received the highest rating for each of the criterion in this category. It is rated “Strong” in its accessibility, as it meets updated standards and guidelines;<sup>5</sup> Kialo Edu does account for diverse learners and various literacies; use of the tool does not require special equipment, and the tool is free for educators.

## **Technical**

All criteria were assigned a rating of “Strong,” as Kialo Edu is designed specifically for integration with an LMS (or any other html-based object), is compliant with any standard modern operating system and browser, and does not require additional software or downloads for use.

## **Mobile Design**

In terms of mobile access and functionality, Kialo Edu rates “Strong.” Although the tool does not have a dedicated mobile app, its mobile-optimized screens work seamlessly on desktop/laptop browsers and mobile devices. Arguably, the mobile-based view of Kialo Edu is better-designed than the browser-based view, given its efficient spatial layout, which minimizes white or negative space. The third criterion, offline access, is rated “Limited” because the platform requires internet connectivity to work, which can be limiting for some learner populations.

## **Privacy, Data Protection, and Rights**

Account creation is required for using the tool, though there is an option to invite users with “Instant Access,” which does not require a Kialo account to access. Users are provided several options for signing up for an account or connecting to an existing Google, Microsoft, or Clever account. Because account creation is ultimately necessary for use, this criterion was rated “Moderate.”

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<sup>4</sup> <https://support.kialo-edu.com/en/>

<sup>5</sup> <https://support.kialo-edu.com/en/hc/accessibility-statement/>

Data privacy is explicitly outlined in the privacy policy.<sup>6</sup> The data privacy and ownership practices are standard and not an unusually excessive overreach of the user's privacy. This criterion is assigned a rating of "Strong."

The third criterion in this category—archiving, saving, and exporting data—is rated "Moderate" because of the user's inability to export their activity data in a variety of formats.

## **Social, Teaching, and Cognitive Presence**

Social Presence is rated "Strong" for each of the criterion. The tool supports a community of learning (through discussion) and allows for users to control the learning activities and the learner's anonymity. Likewise, the product has wide-ranging appeal because of its high profile and availability.

Teaching Presence is mostly strong, with facilitation and customization given the highest rating; Kialo Edu provides multiple means of facilitation for instructors to present learners with a variety of activities and resources that are engaging and offer customized feedback—a hallmark of personalized learning. The third criterion—learning analytics—is rated "Moderate," though, because this data could be improved largely with a learner dashboard that gives detailed data on user interactions and usage.

Last, the Cognitive Presence is rated highly in terms of the tool's ability to enhance cognitive tasks, promote higher order thinking, and engage learners metacognitively through performance tracking and through supportive feedback.

## *User Research*

The following section is divided into two headings: Usability and Utility. The first section presents findings on user interactions with the tool. The latter section provides broader insights into the pedagogical, instructional, and motivational value of the program, as well as suggestions for improvement, according to the study participants. Interviewer notes, recorded videos, and their accompanying audio transcripts were analyzed for emerging themes on both the usability and utility of Kialo Edu. Findings are presented below.

### **Usability**

A researcher from the CRRE met virtually with individual participants who agreed to participate in the study and make audio and video recordings of their shared screens. Then, using a think-aloud protocol (Appendix C), participants were asked to navigate

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<sup>6</sup> <https://www.kialo-edu.com/privacy>

the Kialo Edu website and perform a series of eight tasks and then respond to brief questions about their understanding. The tasks were assigned in this order:

1. Please take a moment to explore the front page.
2. Sign up for a new account.
3. Create a new discussion.
4. View the argument map.
5. Share a discussion.
6. Enable and then edit a discussion task.
7. Create a team and then share an invite link.
8. Clone your discussion.

For some of the tasks, participants were then asked to provide a rating based on a Likert-type scale that reflected how well they understood the various components associated with that task. The following section reports on each task separately, providing a synthesis of user reactions and comments where applicable.

### ***Task 1: Explore the front page.***

In general, participants were able to successfully navigate the landing page and subsequently reported having gained a broad understanding of what the tool does and how it works after only a short time browsing. Comments were fairly limited on this straightforward task, though it was observed that every one of the participants chose to interact with the overview video. Many indicated their preference for watching a video instead of reading the lengthy narrative text blocks that explain the tool to new users, and some recommended prioritizing the video closer to the top of the page and that it contain realistic demonstrations of the tool in use. More added that screenshots of Kialo Edu would be more beneficial than the stock photos that are currently shown. One participant said, "Seeing it in action tells me I can see the possibilities. I need to see it in action." Others concurred, adding that the page is "very text-based," but it is still "intuitive and easy" to navigate and to gain a rudimentary understanding of what the tool is and how it works.

### ***Task #2: Sign up for a new account.***

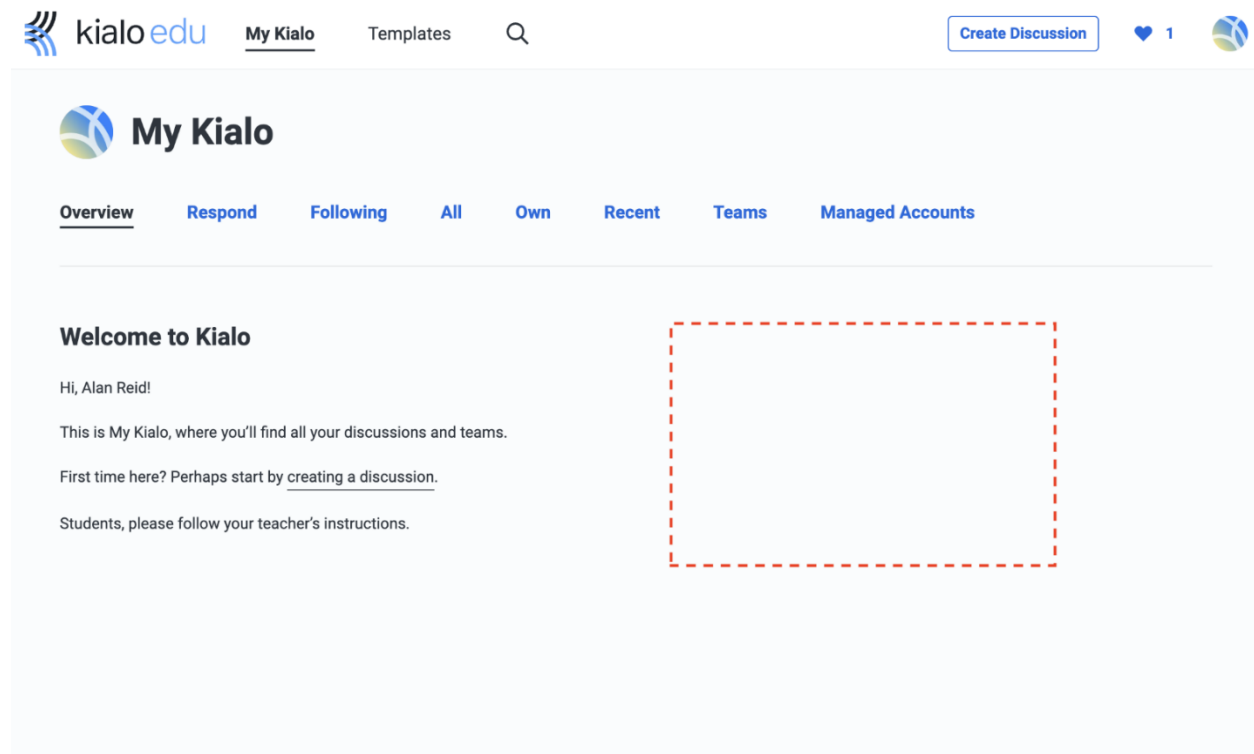
None of the participants found the sign-up and login process to be difficult. This is attributed to the sign-up button being prominently displayed in the upper right-hand corner of the screen and easily discoverable. Moreover, the login options are standard; participants primarily chose to either sign up with an existing Google account or create a new account with their personal email address.

Upon creating a new account, users are redirected to the MyKialo page (see Figure 1). As noted by participants, this page is largely "information-less," "simple," and



“flat.”<sup>7</sup> Several participants commented on the unused negative space on the page (indicated by the red rectangle in Figure 1) and how that could contain meaningful information like a “Get Started” button, an image, or a short instructional video for first-time users.

**Figure 1**  
*The MyKialo Landing Page*



From this point, when asked what they would like to do next, all participants indicated that they would like to create a discussion. However, it was suggested that this option be more prominently displayed with a button. In one participant’s words, “Creating a discussion needs to pop.”

### ***Task #3. Create a new discussion.***

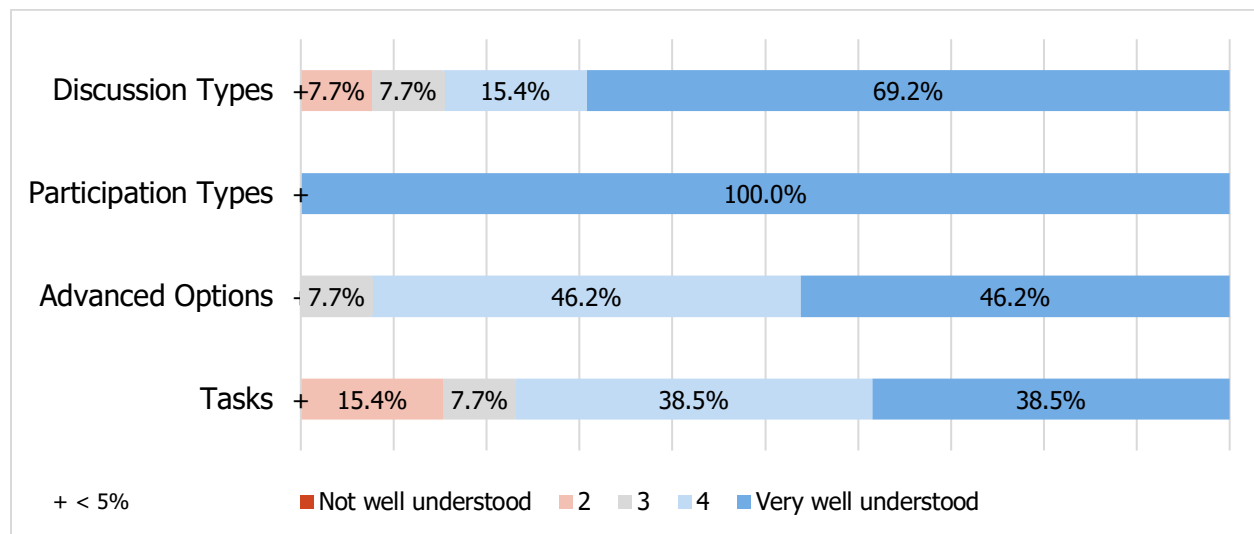
Overall, most participants found the task of creating a new discussion to be generally intuitive, as it is facilitated by the clear messaging on the screen, which

<sup>7</sup> It also should be noted that the MyKialo page has an entirely different aesthetic than the rest of the pages (e.g., the Argument Map page), which have a blue header and drop-down hamburger-style menu button. Consider unifying all pages under one design to eliminate confusion and to further emphasize the importance of the MyKialo page, which acts like the main homepage for the user.

effectively prompts the user to progress through a series of six screens. After participants completed the setup process for creating a new discussion, they were asked to use a 5-point Likert-type scale that ranged from “Not well understood” to “Very well understood” to rate the usability of four of the six screens: Discussion Types (single or multiple theses), Participation Type (standard or anonymous), Advanced Options, and Tasks. Figure 2 displays the percentage of respondents and how well they understood how each screen worked.

## Figure 2

*Various components of creating a new discussion*



It should be restated that participants in this study had no previous familiarity or experience with Kialo Edu, so while the technical usability of these screens was not problematic, many participants did express confusion with the content and language presented during the setup of the discussion. In particular, the final screen (“Tasks”) garnered the most difficulty for participants, and this was due primarily to the language and terminology used by Kialo Edu. Some specific comments included:

*They’re using a different language. I’ve used web forums since 2003. I’m so engrained in that language. What’s the operational definition? Some of them had a help button, which was helpful.*

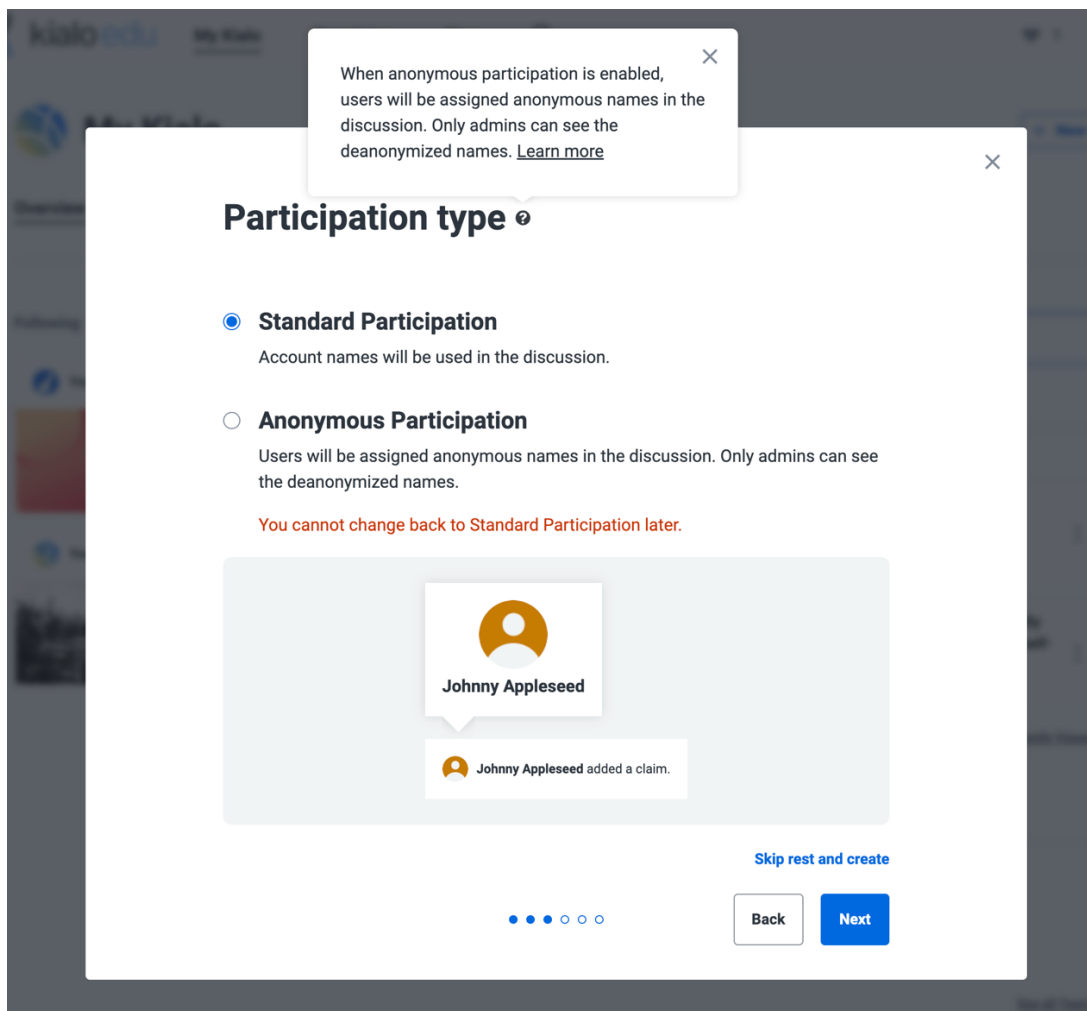
*I was unsure about the language. I guess if I clicked on Learn More, I would’ve known.*

*The language is unclear. I have to click on the Learn More.*

As first-time users, participants were unclear how terms like “thesis” and “claim” corresponded to their pre-existing knowledge of discussion forums, which traditionally

use language like “post” and “reply” when facilitating online discussion. Some participants utilized the help-seeking features on these screens, such as the question mark icon, which gave supplementary information about each option in a pop-up when clicked (see Figure 3). These help features were greatly appreciated because they provide instant clarification for the user, and it was suggested that more of these be embedded on the screens when creating a new discussion.

**Figure 3**  
*An Example of a Help-Seeking Pop-Up Feature*



***Task #4: View the argument map.***

Upon landing on the argument map page, participants found it to be intuitive and navigable. The various components were easily discoverable, clearly signaled, and

understood. According to one respondent, “I wouldn’t even have to give instructions. They could easily navigate this. They’re savvier than I am.” Another noted that the visualizations—both the branching map at the top of the page and the Discussion Topology—are “really nice” and from an instructor perspective, “...a quick way to see who’s engaged” and “to show the connection between arguments.”

Presenting as an emerging theme, one participant again commented on the language of the platform, saying “I don’t love the language, and I feel the structure is kind of restrictive. I don’t know the *pros* and *cons* approach works for my teaching.” Instead, this participant suggested using the phrases “yes, and” and “no, but” to deter users from reducing complex, nuanced issues to a pro/con debate-style format. Another participant found the language to be difficult, saying “For some subject matter—law school students, for example—may understand ‘claim’ and ‘evidence.’ [That language] might be a little challenging for others.”

Aside from the sentiment towards the specific language used, participants appreciated the new approach to an old practice of hosting discussions online. One participant called Kialo Edu the “new rhetoric of discussion forums” pointing out that it requires “deliberative rhetoric” that pressures the user to contemplate their contributions to the discussion more deeply.

### ***Task #5: Share a discussion.***

There were no barriers to participants sharing a discussion. This is attributed to the “Share” button that is prominently displayed in the upper right-hand corner of most screens. From here, the methods to share a discussion were perceived as easy-to-use and extremely valuable.

When asked which method participants would prefer to use for sharing a discussion, most replied that “it depends on the situation” but there was overwhelming support for generating a shared URL. Only one participant favored the option to create a QR code to share a discussion. Several participants indicated that they would use the embed snippet code to insert Kialo Edu into an LMS (Canvas, specifically) and would enable the “Instant Access” feature so that users do not have to create a Kialo account. The rationale here, as explained by one participant, is to “...not to have [learners] leaving the platform” unless absolutely necessary.

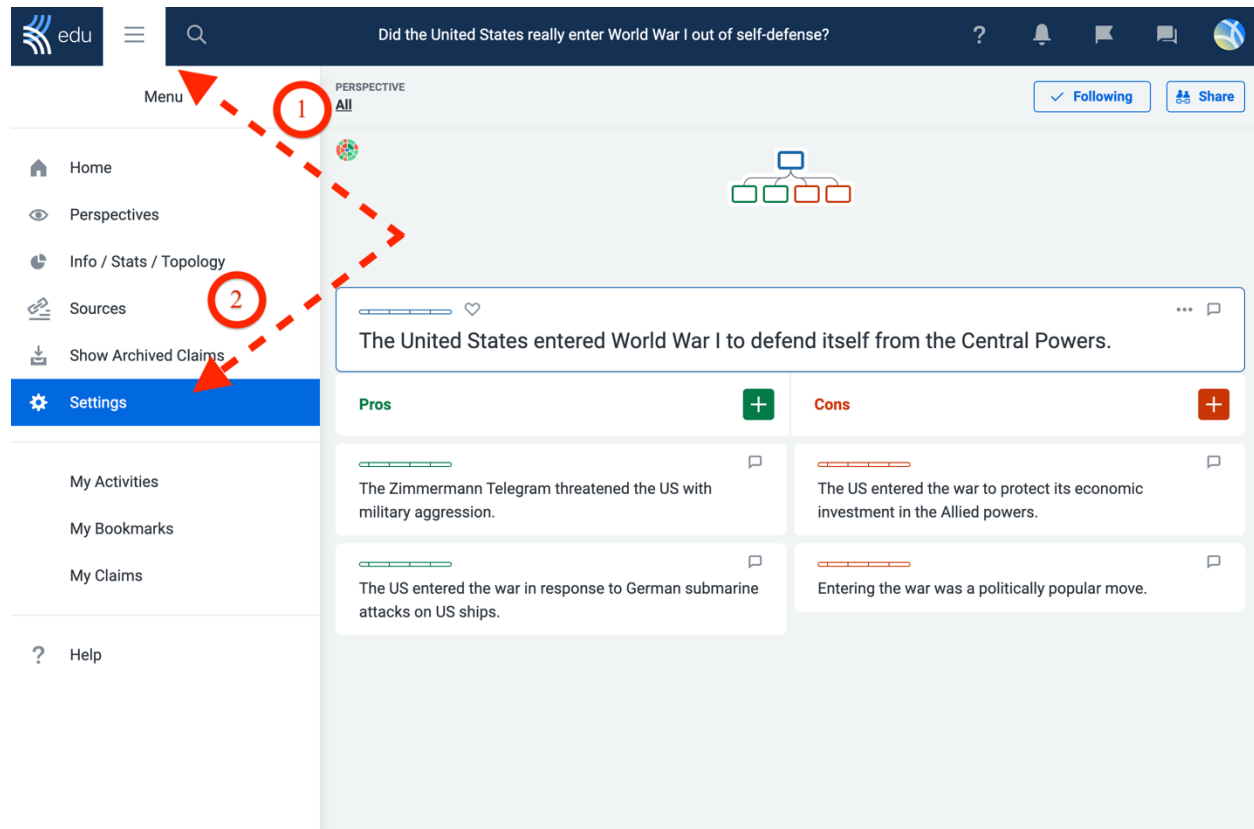
There was one intriguing comment with respect to this task, and it involved sharing moments of a particular discussion. The participant asked, “How do I share a moment in a larger conversation? Like if I wanted to point the class to a particular moment [within the larger discussion], how would I link to it?” Regardless of what thesis, comment, or claim is selected on the Argument Map, the shared URL defaults to the main view. It would be even more beneficial if the shared URL reflected the thesis,

comment, or claim that is being viewed, so that the user could direct others to a specific place in the discussion.

### ***Task #6: Enable and then edit a discussion task.***

The act of editing the discussion tasks was simple, once participants were able to find this page. Given the previous task—sharing a discussion—participants were left confused as to how they could access the discussion settings. Although there is a “Tasks” page embedded on the Share page, this does not allow for modification of all settings, just the specific tasks. Rather, users must follow the steps shown in Figure 4 to view and edit the full settings. Nearly all participants struggled to find this.

**Figure 4**  
*Editing Settings for a Discussion*



Perhaps the most sensible option would be to provide multiple routes to the discussion settings, by way of adding an “Edit” button at the top of the page alongside the Share button or simply include all of the discussion settings on the Share page under the Tasks tab.

***Task #7: Create a team and then share an invite link.***

Like editing the discussion settings, locating the menu to create a team initially was a barrier for some; it was not intuitive that they had to return to the MyKialo page in order to create a team, and no other screens afforded a path to perform this option. Many were searching the “Settings” page, which gave the option to invite teams to a discussion but not to create the team first.

Most participants had to be instructed to return to the MyKialo page to look for the option to create a team. Once there, this task was not difficult, and many participants recognized the benefit of using teams for discussions:

*If I wanted subgroups in a class, I could use [teams] that way.*

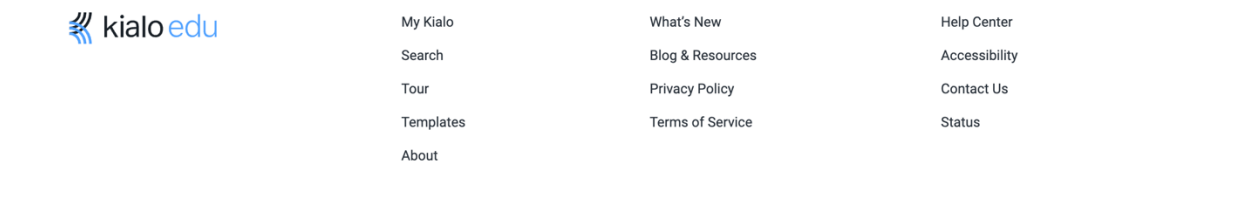
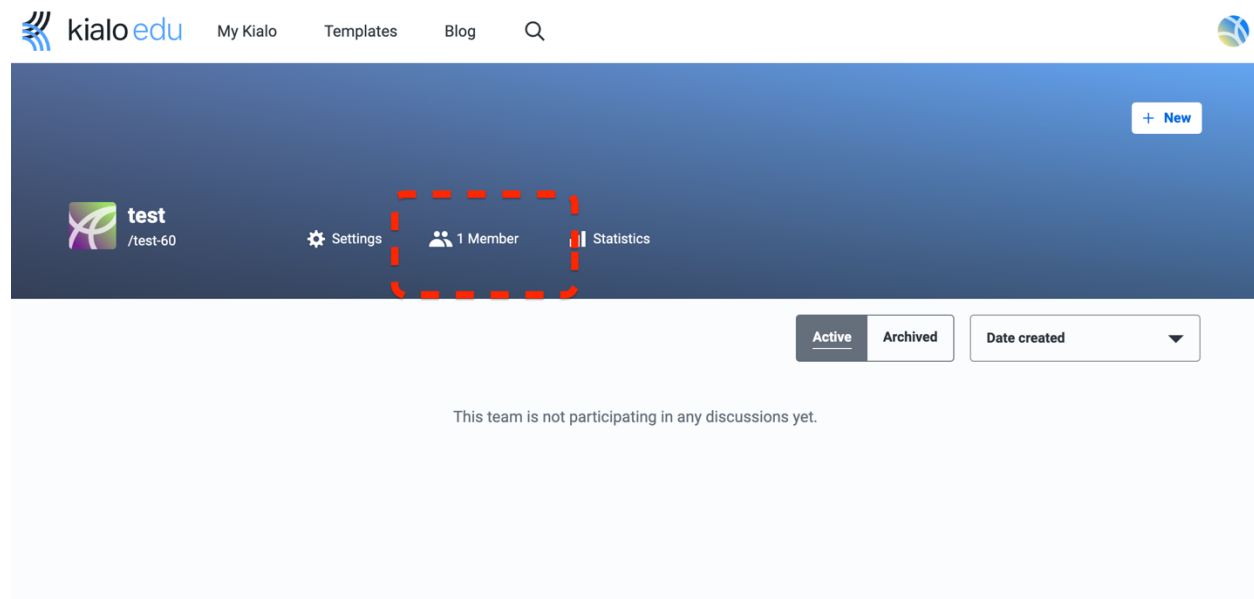
*If I had a large class, and I wanted smaller discussions, or if I had cross-listed courses in Canvas; for a debate, I'd want a larger group.*

*[I could use] different teams to collaborate – maybe pros on one side, cons on the other.*

*I do a lot of case discussions, so I could see putting members together and giving them discussions or argument and having them interact with each other. I could see linking up teams to make the discussion a little bit bigger to see how they are different.*

When asked how participants would add members to their teams, there also was some consternation. Figure 5 indicates where the user must click to add a team member, though this is not clear from the messaging.

**Figure 5**  
*Adding a Team Member*



Participants recommended adding a more visible button that nudges the user to add people. One participant also noted that there is no option to add team members via a CSV bulk upload, which would be extremely helpful.

Lastly, it should be acknowledged that the design layout and aesthetic of this page deviates from other pages (e.g., the MyKialo and Argument Map pages). Consistency in the visual design of pages—for example, a fixed header / banner style and color and a uniform menu with buttons at the top—would alleviate much of the navigational disorientation for the new user.

### ***Task #8: Clone your discussion.***

Like the previous two tasks, the same navigation issues plagued users who were asked to clone a discussion. Participants were unaware that this feature is only available from the MyKialo page. Aside from this menu navigation issue that prevented some participants from locating the option to clone a discussion, the task of cloning was

straightforward and intuitive, and many found it to be a useful feature to be able to copy discussions from class to class, semester to semester.

## Utility

Aside from evaluating the usability of Kialo Edu, participants also were asked open-ended questions related to its utility in the classroom. Firstly, there was the question about the modality in which this tool would best serve learners. In response to the question, “Can you see yourself using this in class?” a follow-up question asked participants to indicate whether Kialo Edu would work better in a face-to-face or virtual environment. Responses varied:

*I can see both – online or F2F settings – using discussions.*

*I’d definitely [use] this as a face-to-face tool. I’m always looking to integrate technology into face-to-face settings. And, I’d obviously use it online.*

*I’d use the anonymous feature for in-class use. Helps get conversation started, even on low-risk topics.*

*I could see myself using this in a live class. In an online class, my students are already in discussion boards. It’s difficult to implement other tools that are similar. It’s almost better as a live tool.*

Participants identified instructional and pedagogical uses of the Kialo Edu platform, including using it as a “tool for reflective work,” as a “classroom discussion driver,” and as a platform for collaborative writing, prewriting, and generative activities. In addition, participants theorized that Kialo Edu has alternative uses, too, such as a brainstorming tool, a platform for socially annotating texts, and even as a way to organize online department meetings for faculty.

Reflecting on how Kialo Edu differs from traditional discussion forums that are built into LMSs, participants saw stark differences between the two. One participant called the default LMS discussion forums “static and dry,” adding that “Students write obligatory sentences in Moodle—they know no one is invested in it. It’s vague and relativistic. [Kialo Edu] is a way to get students invested.”

## Recommendations

Despite its potential for use, participants did have numerous suggestions for improvement, in addition to the recommendations stated above within each of the assigned tasks. These were grouped together by theme and are presented below.



## Aesthetics and Design

- **Be consistent.** Create a menu with buttons that is consistent across all pages: “[Kialo Edu needs] much clearer call-to-action buttons. Everything needs to be bigger... Guide me to the next task.”
- **Emphasize multimedia.** Most pages are extremely text-heavy. According to one participant, “More things need to be clearly buttons... a lot of the words in the navigation are meaningless to me.” The use of buttons and imagery can help guide users to the next task. One person said, “Beef up the visuals. Draw me in.”
- **Make Help Obvious.** Embed help-seeking features and make them more obvious, especially for new users.

## Language and Terminology

- **Reconsider the Language.** One participant—a writing program administrator for first-year college students—commented:

*The language of ‘Pros’ and ‘Cons’ in response to the thesis is reductive... I think the functionality is nice, but it’s hard when you’re working against the labels and language of the platform. [Kialo Edu feels like] a ‘struggle model’ or ‘antagonistic’ - why can’t [discussions] be support rather than a contest?*

Another participant suggested using the term *Contributions* instead of *Claim*. According to her, “Claim feels really specific. Contribution is less forceful [and] suggests “working with another” [whereas] claim feels combative.”

## Novel Features

- **Let Users Save Work.** Adding a “Save Draft” button when writing posts would allow for users to begin crafting a response but still allow them to return to the argument map to revisit comments.
- **Build A Notepad.** Give the user a notepad feature that allows for a scratch response while reading others’ comments and posts. This notepad could be floating and operate as a sticky note that allows the user to annotate as they read.
- **Enable Multimedia.** Provide users the ability to add claims using different modalities such as images or videos; doing so allows learners flexibility in the ways in which they contribute to the discussion.

- **Missing Language.** One participant noticed that the option to use Chinese as a language was not present on the otherwise exhaustive list.

## Instructional Perspective

- **Connect to Grading.** Several participants wondered how they would grade user activity on Kialo Edu without having to search for each individual user and view their contributions. Having an instructor view that allows for grading of individual responses would be helpful, as would the ability to connect the tool to an LMS gradebook.
- **Create a Teacher Dashboard.** Participants noted how useful it would be to have a centralized dashboard that presents analytics on individual users. This, too, would be in an instructor or administrator view only.

## Conclusion

Our overall impression is that the Kialo Edu platform has significant educational and motivational value to its learners. With regard to the Rubric for eLearning Tool Evaluation, it was determined that most criteria received the highest rating of Strong. In particular, the areas of Accessibility, Technical, Social Presence, and Cognitive Presence all received a rating of Strong for each of their sub-criteria. The areas in which there is suggested improvement included two criteria in the Functionality category (Ease of Use; Hypermediality), one in Mobile Design (Offline Access), two in Privacy, Data Protection, and Rights (Sign Up / Sign In; Archiving, Saving, and Exporting Data), and one criterion in Teaching Presence (Learning Analytics). Results from the user tests and interviews identified some weak areas of the overall design, as well as some suggestions for improvement, but participants were largely satisfied with Kialo Edu and its potential as an instructional tool.

## Appendix A: Statement of Work

Design Review and User Research  
Kialo Edu

Statement of Work  
March 2023

This Statement of Work (SOW) describes a plan for the Center for Research and Reform in Education (CRRE) at Johns Hopkins University to serve as a research partner for Kialo Edu in conducting user research into the design of the online tool, Kialo-Edu. Based on the design review and further planning meetings, CRRE may create a future SOW for an efficacy study for selected grade-level learning kits. Kialo is described as “a public discussion platform designed to facilitate reasoned debates about complex topics online” whose mission is to “make the world a more thoughtful place.”<sup>8</sup>

### **Usability and Utility Formative Evaluation**

The proposed formative evaluation will include a user analysis of two areas: usability (user behaviors and reactions) and utility (perceived use and value) of the program. The first area, usability research, will be conducted using virtual think-aloud sessions, in which users navigate the online tool to accomplish a pre-determined set of tasks while narrating their thoughts aloud, with researcher prompts when necessary. These sessions will be recorded for those participants who give voluntary consent, and the raw data will be shared with the client, in accordance with a data-sharing agreement. The receipt of the stipend is contingent upon a participant’s voluntary consent. The second area, utility, will be examined using open-ended interview questions that focus on the perceived usefulness of the program and barriers to implementation.

The target audience for this research is individuals aged 30-50 years of age, with some tech familiarity. A minimum of five participants from each group stated below (minimum total of at least ten (10) participants) will be offered a monetary incentive to participate and will be recruited from two groups: (1) lecturers/professors and (2) design team members that specialize in faculty course design support at the university level. Sessions will take place over Google Meet.

Specifically, this review will seek to:

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<sup>8</sup> <https://www.kialo-edu.com/about>

- Summarize results from the usability research to pinpoint specific areas that users find confusing or difficult to use or navigate.
- Understand the pedagogical, instructional, and motivational value of the program through the lens of lecturers/professors and university-level design team members, as well as any hesitancy for use.
- Provide recommendations for improving design and usability.

Drawing from the above activities, the CRRE will produce a report describing the results of the user research, offering recommendations for refinement of the program operation and broad design. CRRE will also produce a 100-word abstract of the report. The design review team, led by Drs. Alan Reid and Jennifer Morrison will work closely with Kialo Edu staff and developers to communicate the results of the usability testing and to identify areas of improvement.

### ***Proposed Timelines***

- March 2023
  - Study planning by CRRE and Kialo
  - Develop materials (Usability TA Protocol)
  - Recruit participants
- April 2023
  - Conduct user research
- May 2023
  - Draft report by May 15
  - Final report by May 31

### ***CRRE Faculty***

**Alan Reid, Ph.D.:** will serve as principal design reviewer. He is a research associate at CRRE specializing in instructional design and mixed-methods research.

**Jennifer Morrison, Ph.D.:** will serve as primary PI. She is an associate research professor at CRRE, specializing in mixed-methods research and educational technology.

**Steven Ross, Ph.D.:** will serve as co-PI. He is the director and a professor at CRRE. He specializes in program evaluation, mixed methods research, and ed-tech evaluations.

## Appendix B: Rubric for eLearning Tool Evaluation<sup>9</sup>

<b>Category</b>	<b>Criteria</b>	<b>Limited</b>	<b>Moderate</b>	<b>Strong</b>	<b>Not Applicable</b>
Functionality	Scale	The tool is restrictive to a limited number of users and cannot be scaled.	The tool can be scaled to accommodate any size class but lacks flexibility to create smaller sub-groups or communities of practice.	The tool can be scaled to accommodate any size class with the flexibility to create smaller sub-groups or communities of practice.	
	Ease of Use	The interface is not user-friendly for either the instructor or learner; it is cumbersome, unintuitive, rigid, and inflexible.	The tool has an interface that may be confusing to either instructor or learner; there is limited opportunity for personalization.	The tool has a user-friendly interface, and it is easy for instructors and students to become skillful with in a personalized and intuitive manner.	
	Tech Support / Help Availability	Technological support and help documentation is not available.	Technical support and help documentation is available but limited, incomplete, or not user friendly.	Campus-based technical support and /or help documentation is readily available and aids users in troubleshooting tasks or solving problems	

<sup>9</sup> This rubric was adapted by researchers in the CRRE for better congruence with the Instructional Design Review Rubric. Changes to the evaluation labels included replacing "Works Well" with "Strong," "Minor Concerns" with "Moderate," and "Serious Concerns" with "Limited." The evaluation criteria columns also were transposed to match the ID Review Rubric, which progresses in strength from left-to-right instead of right-to-left.

				experienced; or the tool provider offers a robust support platform.	
	Hypermediality	The tool is restrictive in terms of the communication channels employed (audio, visual, textual) and presents information sequentially in a rigid, inflexible format.	The tool allows users to communicate through different channels (audio, visual, textual) but is limited in its ability to provide non-sequential, flexible/adaptive engagement with material.	The tool allows users to communicate through different channels (audio, visual, textual) and allows for non-sequential, flexible/adaptive engagement with material.	
Accessibility	Accessibility Standards	The tool fails meet accessibility guidelines or no information of compliance has been made available for the tool.	The tool has some limited capacity to meet accessibility guidelines.	The tool meets accessibility guidelines (e.g., local accessibility legislation and/or W3C WCAG 2.0 standards).	
	User-Focused Participation	The tool is restrictive in meeting the diversity of needs reflective in the student body. The tool likely restricts some learners from fully participating.	The tool has some limited capacity to address the needs of diverse users, their various literacies, and capabilities.	The tool is designed to address the needs of diverse users, their various literacies and capabilities, thereby widening opportunities for participation in learning.	

	Required Equipment	Proper use of the tool requires specialized equipment requiring moderate to significant financial investment.	Proper use of the tool requires specialized equipment (e.g., unique device) that likely requires purchase at a low cost.	Proper use of the tool does not require equipment beyond what is typically available to instructors and students (computer with built-in speakers and microphone, internet connection, etc.)	
	Cost of Use	Use of the tool requires a purchase that is likely to pose a financial burden on students (exceeding \$50 for a single half term course).	Limited aspects of the tool can be used for free with other elements requiring payment of a fee, membership, or subscription. Use of the tool requires a fee, membership, or subscription.	All aspects of the tool can be used free of charge.	
Technical	Integration w/ LMS	The tool can only be accessed in an LMS through a hyperlink or static representations of the tool (e.g., file export), rather than a functional version of the tool itself.	The tool can be embedded within an LMS, perhaps with limited functionality, but cannot be fully integrated.	The tool can be embedded (as an object via HTML code) or fully integrated (e.g., LTI compliant tools) into an LMS while maintaining full functionality of the tool.	

	Desktop / Laptop Operating Systems	Users are limited to using the tool with one specific, up-to-date operating system.	Users may encounter limited or altered functionality depending on the up-to-date operating system being used.	Users can effectively utilize the tool with any standard, up-to-date operating system.	
	Browser	Users are limited to using the tool through one specific browser.	Users may encounter limited or altered functionality depending on the up-to-date browser being used.	Users can effectively utilize the tool with any standard, up-to-date browser.	
	Additional Downloads	The tool requires a past version of a browser extension or software.	The tool uses a browser extension or software that requires a download and / or user permission to run.	Users do not need to download additional software or browser extensions.	
Mobile Design	Access	Access to the tool is limited or absent on a mobile device.	The tool offers an app, but only for a limited set of mobile operating systems. Tool is not accessible through a mobile browser. Design of the mobile tool constrained by the limitations of the mobile device.	The tool can be accessed, either through the download of an app or via a mobile browser, regardless of the mobile operating system and device. Design of the mobile tool fully takes into consideration the constraints of a smaller-sized screen.	



	Functionality	The mobile app functions poorly such that core features are not reliable or non-existent. Significant difference in functionality depending on the mobile device's operating system used to access the tool.	Core features of the main tool are functional on the mobile app, but advanced features are limited. Some difference in functionality between apps designed for different mobile operating systems but has limited impact on learners' use of the tool.	There is little to no functional difference between the mobile and the desktop version, regardless of the device used to access it. No difference in functionality between apps designed for different mobile operating systems.	
	Offline Access	The mobile platform cannot be used in any capacity offline.	Offers a kind of offline mode, where the tool can be used offline, but core functionality and content are affected.	Offers an offline mode: Core features of the tool can be accessed and utilized even when offline, maintaining functionality and content.	
Privacy, Data Protection, and Rights	Sign Up / Sign In	All users (instructors and learners) must provide personal information to a third party in creating an account and there is some question or concern of the adherence to local,	Either instructors are the only users required to provide personal information to set up an account; or the tool has been vetted through appropriate channels to ensure strict	Use of the tool does not require the creation of an external account or additional login, such that no personal user information is collected and shared.	

		institutional, or personal policies/standards for protecting the collection and use of such data by the third-party group.	adherence to local, institutional, or personal policies/standards for protecting the collection and use of student personal data by a third-party group.		
	Data Privacy and Ownership	Users forfeit ownership and copyright of data; data is shared publicly and cannot be made private, or no details provided.	Users maintain ownership and copyright of their intellectual property/data; data is shared publicly and cannot be made private.	Users maintain ownership and copyright of their intellectual property/data; the user can keep data private and decide if/how data is to be shared.	
	Archiving, Saving, and Exporting Data	Content and activity data cannot be archived, saved, or imported/exported.	There are limitations to archiving, saving, or importing/exporting content or activity data.	Users can archive, save, or import and export content or activity data in a variety of formats.	
Social Presence	Collaboration	Communication, interactivity, and transfer of meaning between users is not supported or significantly limited.	The tool has the capacity to support a community of learning through asynchronous but not synchronous opportunities for communication, interactivity, and	The tool has the capacity to support a community of learning through both asynchronous and synchronous opportunities for communication,	

			transfer of meaning between users.	interactivity, and transfer of meaning between users.	
	User Accountability	Instructors cannot control learner anonymity and there is no technical solution for holding users accountable to their actions.	Instructors cannot control learner anonymity, but the tool provides some solution for holding learners accountable for their actions.	Instructors can control learner anonymity; the tool provides technical solutions for holding learners accountable for their actions.	
	Diffusion	The tool is not well known/foreign, it is likely that learners are not familiar with the tool and lack basic technical competence with its functions.	Learners' familiarity with the tool is likely mixed, some will lack basic technical competence with its functions.	The tool is widely known and popular, it's likely that most learners are familiar with the tool and have basic technical competence with it.	
Teaching Presence	Facilitation	The tool has not been designed to support an instructor's ability to be present with learners via active management, monitoring, engagement, and feedback.	The tool has limited functionality to effectively support an instructor's ability to be present with learners via active management, monitoring, engagement, and feedback.	The tool has easy-to-use features that would significantly improve an instructor's ability to be present with learners via active management, monitoring, engagement, and feedback.	
	Customization	The tool cannot be customized.	Limited aspects of the tool can be customized to suit the	Tool is adaptable to its environment: easily customized to suit the	

			classroom context and learning outcomes.	classroom context and targeted learning outcomes.	
	Learning Analytics	The tool does not support the collection of learning analytics.	Instructor can monitor learners' performance on limited measures; or data is not presented in a format that is easily interpreted.	Instructor can monitor learners' performance on a variety of responsive measures. These measures can be accessed through a user-friendly dashboard.	
Cognitive Presence	Enhancement of Cognitive Tasks	The tool acts as a direct tool substitute with no functional change to engagement in the targeted cognitive task(s).	The tool enables functional improvement to engagement in the targeted cognitive task(s).	The tool enhances engagement in targeted cognitive task(s) that were once overly complex or inconceivable through other means.	
	Higher Order Thinking	The tool likely does not engage learners in higher order thinking skills (despite significant consideration to design, facilitation, and direction from instructor).	The tool may engage learners in higher order thinking skills (given significant consideration to design, facilitation, and direction from instructor).	Use of the tool easily facilitates learners to exercise higher order thinking skills (given consideration to design, facilitation, and direction from instructor).	

	<p>Metacognitive Engagement</p>	<p>There are no opportunities for formative feedback on learning (i.e., lacking opportunities for tracking performance, monitoring improvement, testing knowledge on a regular basis).</p>	<p>Opportunities for receiving formative feedback on learning are available, but infrequent or limited (i.e., poor opportunities for tracking performance, monitoring improvement, testing knowledge on a regular basis).</p>	<p>Through the tool, learners can regularly receive formative feedback on learning (i.e., they can track their performance, monitor their improvement, test their knowledge).</p>	
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## Appendix C: Usability Testing Protocol

Hello and thank you for participating in this usability study. My name is \_\_\_\_ and I am from the Center for Research and Reform in Education at Johns Hopkins University. The purpose of this study is to evaluate the usability of Kialo Edu, an online discussion platform designed to facilitate reasoned debates around complex issues. For this research, you will be asked to share your computer screen, which we will then record and use for analysis. This screen recording also will be shared with the client (Kialo), who will retain it for internal use only. Recordings will not be used for advertising or non-study-related purposes. You also may request that the recording may be stopped at any time.

This interview should last between 30 – 45 minutes. You will be asked to create an account on Kialo-edu.com, complete a series of eight tasks at my direction, and then respond to short questions. ***It is very important that you audibly narrate your thoughts as you navigate the screen.*** You are being compensated in the amount of \$100 for your voluntary participation in this study.

Do you agree to allow the researchers to make and use video/audio recordings for the purpose of this usability study? (***Must gain an audible affirmative response before proceeding.***)

---

**Q.** Can you please tell me a bit about your current role / position?

- 

Great! Now, please navigate to kialo-edu.com and share your screen with me.

I will now proceed by asking you to complete several tasks on the Kialo website. After each task, I will prompt you with a follow-up question. Please remember to audibly narrate your movements on the screen.

---

**Task #1:** Please take a moment to explore the front page. (Pause for 30 seconds).

**Q.** Do you have a clear understanding of what Kialo Edu is and how the platform works?

-

Q. If you wanted to learn more, what would you do next?

- 

**Task #2:** Sign up for a new account.

Q. When you arrive at the MyKialo page, what are your thoughts?

- 

Q. What do you want to do next (e.g., create a team or a discussion)?

- 

**Task #3:** Create a new discussion.

Q. On a scale of 1-5 (1 being the lowest; 5 being highest), how intuitive was creating a new discussion for you? Explain.

- 

Q. On a scale of 1-5, how well did you understand the following components:

- Discussion types (Single Thesis, Multiple Theses):
- Participation types (Standard, Anonymous):
- Teacher Feedback feature (This feature is noted in the advanced features section of the discussion creation dialogue):
- Tasks:

Please explain.

- 

**Task #4:** View the argument map.

Q. Do you understand the principles of the argument map? Are the various components clear (thesis, claims, comments)?

- 

**Q.** On a scale of 1-5, how well do you understand the argument map? Explain.

- 


**Task #5:** Share a discussion.

**Q.** On a scale of 1-5, how intuitive was it to:

- Invite participants to the discussion:
- Enable link sharing:
- Embed a discussion in an LMS:

**Q.** Which method are you most likely to choose to share a discussion in a class?

- 

**Task #6:** Enable and then edit a discussion task. (*Hint:* Visit the three horizontal lines  in upper left-hand corner of page, then select **Discussion Settings**).


**Q.** Do you think this is useful? Why or why not?

- 

**Task #7:** Create a team and then share an invite link. (*Hint:* Open the My Kialo page and navigate to the Teams section.)

**Q.** How do you see yourself using this feature?

- 

**Task #8:** Clone your discussion. (Hint: Open the Discussion Menu and select Discussion Settings. Or, access from MyKialo homepage – three dots  next to the discussion).



**Q.** How do you see yourself using this feature?

- 

**Can you see yourself using this in class?**

**How is it different from a discussion forum?**

**Do you have any suggestions or recommendations?**